

## **WASTE GAS PURIFICATION STRUCTURE WITH CIRCULATED FILTERING AND COATING**

### **BACKGROUND OF THE INVENTION**

Nowadays, factories such as ironware casting factories, gilding factories, or painting  
5 factories, etc. use different substances according to their operating nature. Those  
substances then generate magnetic dust from various kinds of chemical elements. If the  
dust is inhaled, it will cause lung diseases that may further become the cause for any  
myocardium disease to human bodies, and it may cause lung cancer or other physiological  
and pathological changes if workers work in such an environment for a long time. It is  
10 indeed a potential life threat to workers. Any worker who is aware of such hazardous  
conditions will be reluctant to work in such environment for the sake of health. Further,  
the polluted air generated in factories not only is a potential life threat to physical conditions  
of workers but also to that of the public in whole. Particularly, if a pregnant woman  
inhales such polluted air for a long time, it will endanger the life of the next generation.  
15 Please note that the current masks available are commonly made of cotton and are  
insufficient to safeguard us from the seriously polluted dust. In view of such shortcoming,  
the inventor discloses this invention-WASTE GAS PURIFICATION STRUCTURE.

## SUMMARY OF THE INVENTION

The primary objective of the invention is to provide a cross-meshed waste gas purification structure with circulated filtering and coating, especially via the compositions of a filter, a support axle, a bearing housing, a motive rod, a chest base, and a motor to  
5 achieve the practical use of cross meshes by circulating both sides for air purifying.

The secondary objective of the present invention is to provide a cross-meshed waste gas purification structure with circulated filtering and coating, wherein a bearing is pivotally coupled to both ends of the support axle and both bearing housings are disposed equidistantly apart in the chest base set at an appropriate distance with the bearing housing  
10 fixed on the opposite side of the housing.

Another objective of the present invention is to provide a cross-meshed waste gas purification structure with circulated filtering and coating, wherein each of both sides has support axles cross one another to allow a S-shaped filter to move along and facilitate the filter to be fixed to the intersection of both sides for collecting paint and dust.

15 Another further objective of the present invention is to provide a cross-meshed waste gas purification structure with circulated filtering and coating, wherein the meshes on both sides of the S-shaped track circulation are used to completely stick the dust or residue into the aperture to increase the storage area, and thus accomplishing a complete purification function.

**BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is an illustrative diagram of the structure composition of the present invention;

FIG. 2 is a perspective diagram of the structure components of the present invention;

5        FIG. 3 is an illustrative diagram of the preferred embodiment of the present invention;

FIG. 4 is an illustrative diagram of the structure according to the present invention when it sticks out the dust;

FIG. 5 is an illustrative diagram of the curved cross circulation function of the  
10    present invention; and

FIG. 6 is an illustrative diagram of the preferred embodiment of mesh picking up and cleaning the dirty paint or residues of the present invention.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Please refer to FIGS. 1 to 6 for a cross-meshed waste gas purification structure with circulated filtering and coating that is comprised of a filter, a support axle, a bearing housing, a motive rod, a chest base, and a motor; wherein a bearing house 2, 21 is pivotally coupled to each of both ends of the support axle 1, and assembled into two axial holes, and the two bearing housings are disposed in the chest base with an appropriate distance apart. A bearing housing 2, 21 is pivotally coupled to each of both spherical ends of the support axle 1, and assembled into the two axial holes to set the two bearing housings with an appropriate distance at the two opposite ends of the inner walls of the chest base and aligned in rows in the cross-section, and a bearing housing 22, 23 each is fixed on the opposite walls to form relatively high and low position, such that the two parallel support axles 1, 1A are disposed alternately in the vertical direction to let the filter 3 pass through the S-curve state driving. The filter is made of interwoven cotton meshed member, and meshes 44 are spread all over the meshed surface, and supported by one end of a rotary rod 5. The filter passes from the top of the chest base through a first axle back and forth into the bottom of the bidirectional support axle for discharging the output at a motive rod 6. The motive rod is coupled to a variable motor 7 for driving the rod to rotate 360° and roll the filter upward to define a multi-layer S-shape route in order to facilitate the accommodate the filter plate such that it can move back and forth within the two surface and the intersection makes the dirty paint be mixed up with the waste gas. By means of both surfaces having meshes along the S-curved track, the tiny residue or paint will be adhered into the tiny apertures to increase the storage area and give a 100% purified air function. The cross circulation of the two meshed surfaces is used to purify air definitely has its practical effect. However, this filter is not limited to cotton woven mesh member, but any mesh plate having meshes capable of adhering dirty paint can also be used to eliminate waste gas and filter the

pollutant.

While the present invention has been described in connection with what is considered the most practical and preferred embodiment, it is understood that the invention is not limited to the disclosed embodiments but is intended to cover various arrangements  
5 included within the spirit and scope of the broadest interpretation and equivalent arrangements.